

AMENDMENTS TO THE CLAIMS

Please cancel claims 2, 9, 10, 12, 20, and 21 amend claims 1, 3, 4-8, 11, and 13-19 as set forth below.

1. (CURRENTLY AMENDED) A fingerprint identification system
~~comprising~~comprising:

a timepiece unit; and

a main unit,

wherein said timepiece unit is swingably connected to said main unit through a hinge,

said main unit comprising:

a registration ~~apparatus~~apparatus; and

an identification apparatus,

wherein both of said registration apparatus and said identification apparatus are covered by a bottom surface of said timepiece,

said registration apparatus comprising:

a first fingerprint sensor for reading a fingerprint in a first region of a human finger to output ~~an a~~ first image signal representing an image of the fingerprint;

first image data generating means for generating first image data of the fingerprint based on the first image signal output from said first fingerprint sensor;
and

data output means for outputting the first image data generated by said first image data generating means;

said identification apparatus comprising:

data input means for receiving the first image data output from said data output means;

storage means for storing the first image data received by said data input means;

a second fingerprint sensor for reading a fingerprint in a second region of a human finger, which is smaller than said first region, to output ~~an a~~ second image signal representing an image of the fingerprint;

second image data generating means for generating second image data of the fingerprint based on the second image signal output from said second fingerprint sensor; and

image identification means for comparing the second image data generated by said second image data generating means against the first image data stored in said storage means to determine whether the fingerprints represented by the ~~respective~~ first and second image data data, respectively, coincide with each other.

2. (CANCELED)

3. (CURRENTLY AMENDED) ~~A-~~ The fingerprint identification apparatus according to ~~Claim 2~~ claim 1, wherein said first fingerprint sensor generates the first image signal by detecting variation in capacitance due to ridges and valleys of the fingerprint when the finger is placed on a fingerprint reading unit.

4. (CURRENTLY AMENDED) ~~A-~~ The fingerprint identification apparatus according to ~~Claim 2~~ claim 1, wherein ~~Said~~ said image data generating means generates first image data representing a binary image of the fingerprint based on the first image signal output from said fingerprint sensor.

5. (CURRENTLY AMENDED) ~~A-~~ The fingerprint identification apparatus according to ~~Claim 2~~ claim 1, wherein said image identification means compares the second image data generated by said second image data generating means against the first image data stored in said storage means by pattern matching to determine whether the fingerprints represented by the ~~respective~~ first and second image data data, respectively, coincide with each other.

6. (CURRENTLY AMENDED) ~~A-~~ The fingerprint identification apparatus according to ~~Claim 2~~ claim 1, wherein said second fingerprint sensor reads the fingerprint a plurality of times with the finger placed at different positions with respect to said second fingerprint sensor so that said second image data generating means generates ~~[[d]]~~ a plurality of image data of the fingerprint, and said image identification means compares each of the plurality of image data generated by said second image data generating means against the first image data stored in said storage means to calculate scores each score indicating the degree of coincidence

between the ~~respective first and second~~ image data, thereby determining whether the fingerprints represented by the ~~respective first and second~~ image data coincide with each other based on the scores.

7. (CURRENTLY AMENDED) ~~A~~ The fingerprint identification apparatus according to Claim 6, wherein said image identification means determines coincidence based on a comparison of the total of the scores with a predetermined threshold value.

8. (CURRENTLY AMENDED) ~~A~~ The fingerprint identification apparatus according to Claim 6, wherein said image identification means determines coincidence based on individual comparisons of each of the scores with a predetermined threshold value.

9. (CANCELED)

10. (CANCELED)

11. (CURRENTLY AMENDED) ~~A fingerprint Identification-identification method comprising a registration apparatus controlling step and an identification apparatus controlling step, a timepiece unit and a main unit, said main unit having a registration apparatus and an identification apparatus, the method comprising the steps of:~~

swinging said timepiece unit about a hinge so that said registration apparatus and said identification apparatus of said main unit are exposed;

said registration apparatus controlling step comprising controlling said registration apparatus through the steps of:

a first image signal output step for reading a fingerprint in a first region of a human finger by a first fingerprint sensor to output an a first image signal representing an a first image of the fingerprint;

a first image data generating step for generating first image data of the fingerprint based on the first image signal output in said first image signal output step; and

a data output step for outputting the first image data generated in said first image data generating step;

said identification apparatus controlling step comprising controlling said identification apparatus through the steps of:

~~a data input step for receiving the first image data output in said data~~
output step;

~~a storing step for storing the first image data received in said data input~~
step in storage means;

~~a second image signal output step for reading a fingerprint in a second~~
region of a human finger, which is smaller than said first region, by a second fingerprint sensor
to output ~~an a second~~ image signal representing ~~an a second~~ image of the fingerprint;

~~a second image data-generating step for generating second image data of~~
the fingerprint based on the second image signal output in said second image signal output step;
and

~~an image identification step for comparing the second image data~~
generated in said second image data generating step against the first image data stored in said
storage means to determine whether the fingerprints represented by the ~~respective first and~~
second image data data, respectively, coincide with each other.

12. (CANCELED)

13. (CURRENTLY AMENDED) A fingerprint identification method according to
~~Claim 12~~ claim 11, wherein the fingerprint is read in said second image signal output step a
plurality of times with the finger placed at different positions with respect to said fingerprint
sensor so that a plurality of image data of the fingerprint is generated in said second image data
generating step, and in said image identification step, each of the plurality of image data
generated in said second image data generating step is compared against the first image data
stored in said storage means to calculate scores each indicating the degree of coincidence
between the ~~respective first and second~~ image data, thereby determining whether the fingerprints
represented by the ~~respective first and second~~ image data coincide with each other based on the
scores.

14. (CURRENTLY AMENDED) A biometric identification apparatus comprising:
a timepiece unit; and
a main unit,
wherein said timepiece unit is swingably attached to said main unit through a
hinge,
said main unit comprising:
storage means for storing first image data representing ~~an~~ a first image of
biometric information in a first region of a human body;
a biometric sensor for reading biometric information in a second region of a
human body, which is smaller than said first region, to output an image signal representing ~~an~~ a
second image of the biometric information;
image data generating means for generating second image data of the biometric
information based on the image signal output from said biometric sensor; and image
identification means for comparing the second image data generated by said image data
generating means against the first image data stored in said storage means to determine whether
the biometric information represented by the ~~respective first and second image data~~ data,
respectively, coincide with each other.

15. (CURRENTLY AMENDED) ~~A~~ The biometric identification apparatus according
to Claim 14, wherein said image data generating means generates second image data
representing a binary image of the biometric information based on the image signal output from
said biometric sensor.

16. (CURRENTLY AMENDED) ~~A~~ The biometric identification apparatus according
to Claim 14, wherein said image identification means compares the second image data generated
by said image data generating means against the first image data stored in said storage means by
pattern matching to determine whether the biometric information represented by the ~~respective~~
first and second image data data, respectively, coincide with each other.

17. (CURRENTLY AMENDED) ~~A~~ The biometric identification apparatus according
to Claim 14, wherein said biometric sensor reads the biometric information a plurality of times
with the relevant part of the human body placed at different positions with respect to said

biometric sensor so that said image data generating means generates a plurality of second image data of the biometric information, and said image identification means compares each of the plurality of second image data generated by said image data generating means against the first image data stored in said storage means to calculate scores each score indicating the degree of coincidence between the ~~respective image data~~ first and second image data, respectively, thereby determining whether the biometric information represented by the ~~respective~~ first and second image data coincide with each other based on the scores.

18. (CURRENTLY AMENDED) ~~A-~~ The biometric identification apparatus according to Claim 17, wherein said image identification means determines coincidence based on a comparison of the total of the scores with a predetermined threshold value.

19. (CURRENTLY AMENDED) ~~A-~~ The biometric identification apparatus according to Claim 17, wherein said image identification means determines coincidence based on individual comparisons of each of the scores with a predetermined threshold value.

20. (CANCELED)

21. (CANCELED)